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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

FEB - 8 2010

Reply To: OCE-127

CERTIFIED MAIL NUMBER 7008 1830 0004 3073 5610
RETURN RECEIPT REQUESTED

James Cagle, Risk Manager - EHS
Nu-West Industries, Inc.
Agrium Conda Phosphate Operations
310 Conda Road
Soda Springs, Idaho 83276

Re: EPA comments to draft Sampling and Analysis Work Plan for Site Characterization at Nu-West Industries, Inc. Conda Phosphate Operations, Soda Springs, Idaho, dated September 25, 2009
RCRA ID Number IDD 00046 6888

Dear Mr. Cagle:

The purpose of this letter is to disapprove the draft Sampling and Analysis Work Plan submitted to EPA on September 25, 2009, pursuant to the Administrative Order on Consent (Order), Docket No. RCRA-10-2009-0186. Enclosed is a list of comments that need to be addressed and deficiencies that need to be corrected.

In accordance with paragraph 69 of the Order, Nu-West Industries must submit a revised Work Plan within thirty days of receipt of this letter that responds to the comments received and corrects the deficiencies. Additional time to respond may be requested. If you or your contractors have any questions, feel free to call me at (206) 553-2964. Alternatively, you may reach me via email at: Magolske.Peter@epamail.epa.gov.

Sincerely,

Peter Magolske
Office of Compliance and Enforcement

Enclosure

cc: P. Scott Burton, Esq., Hunton and Williams, LLP
Brian Monson, IDEQ

EPA comments to Draft Sampling and Analysis Work Plan for Site Characterization of Nu-West Industries, Inc. Agrium Conda Phosphate Operations

General Comments

The response documentation appears to comply with most requirements of the Administrative Order on Consent (AOC); however, many sections lack sufficient technical rationale and detail to determine if the Sampling and Analysis Work Plan for Site Characterization is, "…designed to determine the nature and extent of any environmental contamination from hazardous waste.

The AOC requires that:

> The Work Plan shall document the procedures Respondent shall use to assess sampling and analysis data Respondent or EPA has previously generated that relate to the purposes of this Consent Order as well as the procedures Respondent shall use to conduct those activities necessary to: characterize the source(s) of contamination; characterize the potential pathways of contaminant migration; define the degree and extent of contamination and identify actual or potential human and/or ecological receptors…"

Areas of historical spills and contamination are required to be addressed and the Work Plan does not adequately address those areas. Information reported by Nu-West indicates that there have been localized releases in process areas as well as a number of large off-site releases, such as the 2006 spill in which over three million gallons of pond water entered the adjacent Torgesen property and the release of 70,000 gallons of pond water in 2001.

As indicated above, the AOC requires the Work Plan to document the procedures Nu-West will use to assess existing sampling and analytical data and to conduct sampling necessary to meet AOC requirements. We understand that Nu-West intends to address historical off-site spills and any additional groundwater and on-site sampling needed in a Supplemental Work Plan that will reflect the results of the initial Sampling and Analysis Work Plan as well as an assessment of existing sampling and analytical data. That is acceptable, but the Sampling and Analysis Work Plan must be revised to provide for the submission of the Supplemental Work Plan, which will include an assessment of existing data and information, proposed sampling locations and procedures and rationale for the proposed sampling, as well as an implementation schedule and Project Management Plan. The Supplemental Work Plan must comply with AOC work plan requirements. A revised Sampling and Analysis Report must be submitted for EPA approval following completion of the Supplemental Work Plan. Finally, a schedule for submission of the Supplemental Work Plan must be included in the Sampling and Analysis Work Plan. That schedule can be tied to the completion of the first phase of work needed to develop the Supplemental Work Plan.

Nu-West appears to be using the results of the geophysical resistivity survey solely for determination of subsurface fracture/conductive features. Electrical resistivity imaging is also useful for indicating plumes of sodium and sulfate, which typically precede other plumes of contaminants associated with phosphogypsum storage and management. Potential contaminant plumes should also be identified through the survey to aid in selecting additional monitor well locations.

Specific Comments

1. Page 1, Paragraph 4

This paragraph includes the following statement: "The objectives of this Work Plan are to: (i) characterize Facility soil quality, focusing primarily on production and storage areas; (ii) characterize Site-wide surface water and sediment quality (within unlined water bodies); and (iii) characterize Site-wide groundwater quality."

EPA comment: The characterization of soil and sediment is to include spill areas, and not just to focus on production and storage areas. Paragraph 62 of the RCRA § 3013 AOC includes the requirement that, "The Work Plan shall be designed to determine the nature and extent of any environmental contamination from hazardous waste."

Revise the statement in Paragraph 4 to read as follows: "The objectives of this Work Plan and the Supplemental Work Plan to follow are to: (i) characterize Facility soil quality, focusing primarily on production and storage areas where past spills and releases have or may have occurred; (ii) characterize Site-wide surface water and sediment quality (within unlined water bodies); and (iii) characterize Site-wide groundwater quality."

2. Page 2, Paragraph 1

This paragraph includes the following statement: "Section 13 discusses the tentative project schedule for the investigation activities."

EPA comment: Paragraph 62 of the AOC includes the requirement that, "A specific schedule for expeditious implementation of all activities shall be included in the Work Plan." The specific project schedule can be structured to allow for some flexibility, but in order to ensure that measurable progress is made towards completion of activities under the AOC, a specific project schedule with a sufficient number of enforceable milestones to ensure expeditious completion of all activities is required. Strike the word, "tentative."

3. Page 4, Section 2.4, Paragraph 1 - Groundwater Use

This paragraph identifies four of the five industrial wells.

EPA comment: Revise to include the fifth industrial well, NW-1. In addition, the Work Plan provides only permitted pumping rates for industrial wells NW-5, NW-7, NW-9, NW-10, and NW-1 (1500 gpm). Provide actual pumping rates for each individual well, particularly during times of large volume withdrawals and, if possible, during the dates that correspond to days when peziometric information was collected.

4. Page 4, Section 2.4, Paragraph 2 - Groundwater Use

JRS-11 is listed as a production well, but is not illustrated on Figure 4.

EPA comment: Add well JRS-11 to Figure 4.

5. Page 4, Section 2.5.1.1 – Regional Geology

This section states that "the fault on the west likely hydraulically separates groundwater beneath the facility and the nearest domestic wells (Torgesen Ranch and Lowry)."

EPA comment: There is no evidence provided that this is true. Also, this statement contradicts a further statement on the same page elaborating on the placement of the Torgesen well within the highly fractured zone associated with the faults on the downthrown side of the fault. Furthermore, if this zone "...is highly fractured and is likely a preferential pathway for surface water infiltration", it will be also a zone of a preferential flow for groundwater.

Revise the Work Plan to include hydrogeologic tests and specify the procedures for such tests, or provide adequate support for this statement.

6. Page 6, Section 2.5.1.2 – Site Geology

This section also states "Thus, groundwater quality in well NW-7 is likely representative of background."

EPA comment: The information provided does not adequately substantiate this statement. There is concern that, as implied by the groundwater isolines on Figures 11 and 12, the well is intensively pumped, and if its future capture zone reaches the contaminated region of the aquifer, then the well would not be representative of background.

Revise the Work Plan to provide for drilling another well or several wells up gradient that provide background data. Include procedures for drilling and sampling the background well(s).

Figures 11 and 12 show the "flattening" (from east to west) of the potentiometric surface in the area of the fault. In the groundwater flow analysis, by the low of continuity, the flatter the surface (i.e., smaller hydraulic gradients), the higher the hydraulic conductivity of the solid matrix. Thus, the fault in question does not separate groundwater but rather connects it.

Piezometers need to be placed west of the fault line to properly define the regional groundwater flow patterns. Include procedures for installation and monitoring to properly define groundwater flow.

7. Page 7, Section 2.7.1, Paragraph 1 - Ore Processing

This paragraph incorrectly references Figure 2 as the illustration of the ore processing area.

EPA comment: Revise this paragraph to reference Figure 3.

8. Page 8, Section 2.7.5 - South Ball Mill

EPA comment: Does Nu-West add ammonia to the ore slurry to control viscosity? If so, revise this paragraph to include that information.

9. Page 10, Section 2.7.13 - Ditches and Launders
This paragraph identifies each ditch or launder, and briefly lists the type of lining installed within each conveyance.

EPA comment: There are technical discrepancies between this paragraph and section 5.1.13. This section 2.7.13 states that the SPA Ditch is a concrete-lined channel, whereas section 5.1.13 states that the SPA Ditch is stainless steel lined. A similar discrepancy occurs for the East Ditch. Rectify these discrepancies.

10. Page 14, Section 3.3, Paragraph 1 - Ecological Profile
This paragraph states that there are no known sensitive environmental areas, forested areas, water bodies, or perennial streams on-site.

EPA comment: This profile needs to include the ecological profile for the area surrounding the facility that could potentially be impacted by constituents of concern emanating from the Nu-West facility. Revise to address any sensitive ecosystems within a 1 mile radius of the site boundary.

11. Page 14, Section 3.3, Paragraph 1 - Ecological Profile
This paragraph describes a seasonal water feature, the Woodall Spring Ditch.

EPA comment: Although Nu-West has previously submitted a figure to EPA that includes the location where the Woodall Spring Ditch transverses the property, this submittal lacked such a figure. Please add a figure that includes the location of the Woodall Springs Ditch.

12. Page 17, Section 4.1 – Data Quality Assurance
This section includes the following statement: "Because well construction and installation will not be performed until later in this investigation, the procedures for those activities are not included as part of this Work Plan."

EPA comment: Paragraph 62.d of the AOC requires that, "In addition, the groundwater sampling and analysis section shall identify all well specifications, and construction, and the procedures to be used in making the above well placement determinations (e.g., well design, well construction, the use of Push Probe technology to aid in the placement of wells, iterative sampling concepts, geophysical investigative methods, groundwater modeling)."

Revise the statement in paragraph 4.1 to provide for the submission of a supplemental work plan that includes a groundwater sampling and analysis section that provides all required groundwater and well information and procedures.

13. Page 17, Section 4.2.2 – Identify the Decision

This paragraph states that four primary decisions are to be made from the site investigation activities.

EPA comment: This section needs to reflect the order requirement that the investigation be conducted to determine the nature and extent of any environmental contamination from hazardous waste, as required per paragraph 62 of the AOC.

14. Page 18, Section 4.2.3.1 - Geophysical Survey

EPA comment: See the general comment on the first page regarding the geophysical resistivity survey and revise this section to add contaminant plume detection rationale and procedures.

15. Page 19, Section 4.2.4 – Define the Study Boundaries
This paragraph includes the following statement: "This Work Plan focuses on the Main Processing Area and the gypstacks, tailings ponds, and cooling ponds at the Facility."

EPA comment: The Work Plan must address off-site spill areas. Revise paragraph 4.2.4 to indicate that a supplemental work plan will be submitted to address off-site area and to ensure that the investigation fully determines the nature and extent of hazardous waste at or from the facility.

16. Page 19, Section 4.2.7 – Optimize the Design for Obtaining Data
This paragraph includes the following statement: "As noted above, the scope of investigations presented in this Work Plan is designed to obtain general information on the overall conditions within areas of potential interest at the Facility, as well as adjacent properties included in the Site"

EPA comment: The Agency is looking for more than just "general information." Paragraph 62 of the AOC requires that, "The Work Plan shall be designed to determine the nature and extent of any environmental contamination from hazardous waste." Revise paragraph 4.2.7 to state that the scope of investigation will be to determine the nature and extent of any environmental contamination from hazardous waste at or from the facility.

17. Section 5 – Areas of Potential Interest
Section 5 identifies several areas of potential interest that will be evaluated as part of the work plan.

EPA comment: Section 5 does not include any of the off-site spill areas. The AOC requires that the Work Plan address historical spill areas and areas of historical contamination. There have been documented releases from both the gypsum stacks as well as the cooling ponds that have reached neighboring property. Releases from other units may also have impacted areas off-site.

Revise Section 5 to state that off-site areas will be investigated in order to identify the nature and extent of contamination at or from the Facility. As indicated in the general comments above, the Work Plan may indicate that groundwater and off-site areas may be addressed by a supplemental work plan. Also, see EPA comment #34 below.

18. Section 5.1 – Main Processing Area
This section does not describe the railcar washing operations which an earlier inspection identified as an area of concern.

EPA comment: Include a description of the railcar operations at the facility. This needs to identify the sampling locations that will be used to assess the soil at the rail car washing operations and include a rationale for their selection.

19. Page 21, Section 5.1.13 - Ditches and Launders
This section makes reference to section 2.6.13.

EPA comment: Correct the reference to indicate that section 2.7.13 contains the description of ditches or launders.

20. Page 22, Section 5.2.2 – Production Well NW-9
This section includes the following statement: "Production well NW-9 is to the south of the Main Processing Area. In June 2004, low pH levels and constituents consistent with the fertilizer production process were detected in this well, and CPO notified the National Response Center of a potential release of hazardous constituents. In an attempt to determine a possible source of the release, CPO inspected sumps and launders, and conducted geophysical and groundwater investigations. However, a specific release or source area could not be identified as the cause of the observed groundwater conditions in well NW-9."

EPA comment: Nu-West Industries retained the services of Kleinfelder, Inc. to conduct an investigation into the groundwater impacting production well NW-9 in 2004. By letter dated September 16, 2004 to the Idaho Department of Environmental Quality, Kleinfelder stated that, "This letter is to inform you that the following two process water leaks have just been discovered at the subject facility, and are being addressed as part of Agrium's ongoing program to investigate and eliminate potential sources of contamination: a leak in a concrete-lined sump and a leak in a concrete-lined ditch leading to that sump. Both the sump and the ditch convey process waters that are acidic, and contain phosphates, fluorides, sulfates and other dissolved constituents....The sump is located about 100 feet north of the northeast corner of the shipping building at the "pump house." The sump is constructed of coated concrete. The leak was manifested as a break in the concrete below the normal fluid level in the sump."

In view of the Kleinfelder report, EPA does not believe that the Work Plan adequately addresses investigation of the Well #9 contamination. Revise Section 5.2.2 to include the results of the Kleinfelder, Inc. investigation and correct the record. Identify in the Work Plan which area or areas within Sections 5.1.1 through 5.1.13 encompass the breached sump and ditch referenced by

the Kleinfelder report. If the area of the breached sump and ditch is not already within one of these areas, then add a new section 5.1.14 to describe this. Revise section 7.1.3 as necessary to conduct sampling at this location, or immediately down-gradient if lined.

21. Page 22, Section 5.2.2 – Production Well NW-9

This section states that CPO conducted geophysical and groundwater investigations in the area of NW-9 but does not provide any detail of the investigations. The paragraph also states that the pH has been increasing in this well towards "typical background" conditions.

EPA comment: Provide the methodology and results of the referenced investigations to EPA. Also provide details on the interim remedial measures employed, if any. Identify which well or wells are being used to determine typical background. Revise Section 2.1 to provide an accurate record of the previous site investigations.

22. Page 22, Section 5.3.1 – Gypstacks and Tailings Ponds

This section includes the following statement: "The gypstacks and tailings ponds were described previously in Section 2.6.16."

EPA comment: There is no section 2.6.16 in the document. Identify the correct section or adequately describe the gypstacks and tailings ponds.

23. Page 22, paragraph 5.3.1 – Gypstacks and Tailings Ponds

This section includes the following statement: "The Old Gypstack is underlain by synthetic and bentonite liners. The West Gypstack is underlain by clay and 60-mil HDPE liners. Tailings Ponds #1, #2, and #4 are all underlain by native materials."

EPA comment: There is no mention of Tailings Pond #3. By letter to EPA, dated December 2, 2005 from Scott Burton, on behalf of Agrium Nu-West, Tailings Pond #3 was described as a "Gypsum Stack" having a lining of 60 feet of tailings. Reference page AGR-CBI_003836 of the December 2, 2005 document submittal to EPA. Revise the Work Plan to include a description of the Tailings Pond #3 Gypsum Stack.

24. Page 23, Section 5.4.2 - Surface Water

EPA comment: See EPA comment #11 above regarding inclusion of a figure that identifies Woodall Springs Ditch.

25. Page 24 and corresponding Figure 16

Nu-West has proposed five parallel transects for the ERI study but provided no rationale for the selection of these transects.

EPA comment: Provide the rationale for the proposed transects. EPA recommends additional transects including, but not limited to - transects on the eastern (up gradient) side of the facility, a transect along the eastern side of the West Cooling Pond, a transect east of NW-9 and at the western portion of the property boundary. In addition, select appropriate perpendicular transects.

26. Page 24, Section 6.2 – Geophysical Survey

EPA comment: The plan outlined for using the seismic and electrical resistivity choices of geophysical methods lacks sufficient detail. Some forward modeling computations for both the seismic and the electrical surveys would be useful for survey design and optimization of field effort. Use forward modeling to determine how thick or laterally extensive the features of interest (i.e., fractures, shear zones, interbed zones) must be in order to image them using the proposed acquisition strategy. Forward modeling should also be used for expected physical property contrasts between these features and the more intact bedrock. Forward modeling will also be useful for determining appropriate electrode/geophone spacing.

Do these transects, as proposed, provide adequate coverage of the site to determine controls on groundwater flow, especially to the southwest where there are two domestic wells (Lowry and Arr-Maz)? Only one transect (#5) intersects a previously identified buried fault. Because the information obtained on this transect will provide insight into what a buried fault will look like on the seismic/electrical profiles, and aid in the detection of similar features on other transects, additional transects across this or other previously identified faults would be useful.

Consider additional transects across this or other previously identified faults. Consider staggering the data acquisition. For example, first acquire the seismic data and use these results to determine the optimal locations for resistivity surveying, or vice-versa. A reconnaissance site visit would also be useful for survey design. A limited data set could be acquired then used to adjust spacings, etc., for the actual site investigation.

27. Page 24, Section 6.2.2 – Surface Geophysics Electrical Resistivity Imaging
The first paragraph of this section concludes with the following statement: "The final array of ERI transect lines will be determined in the field and will be adjusted based on site limitations.

EPA comment: It is unclear what is meant by "final array of ERI transect lines" in this section. Is this a 6th ERI profile? What type of "site limitations" are expected and what adjustments would be necessary based on these expected limitations?

How will 3-D representation be constructed? Will this be an interpolated image constructed by combining the 2-D results? Or a fence diagram of the 2-D images? Or will the data be inverted using a 3-D algorithm?

Are surface conditions favorable for ERI? Contact resistance at the earth-electrode interface often makes it difficult to input adequate current for imaging deep structure. Will the electrodes be watered to improve contact? Will contact resistance be measured and recorded during the survey? What are the specifications for the current source (i.e., frequency, output power, etc.)?

It is unlikely that the resistivity systems typically used in near-surface environmental work [e.g., Iris Syscal, Advanced Geosciences, Inc. (AGI) SuperSting, etc., which generally have less than 500 watt output] would provide adequate current penetration, especially if near-surface conditions are resistive. Use of a high-powered transmitter (at least 2.5 KW) for this survey is suggested.

How will data quality be assessed (i.e. Statistics from stacked measurements, comparison of reciprocal measurements)? Will data not meeting quality requirements be discarded from analysis? If so, what are the cutoff criteria?

Provide more details and a response to the questions posed above as part of the procedures and rationale for the Surface Geophysics Electrical Resistivity Imaging proposal.

28. Page 25, Section 6.2.3 – Surface Geophysics Seismic Refraction

EPA comment: This section lacked sufficient detail in order to document the procedures that will be used in the seismic refraction survey to characterize the potential pathways of contaminant migration.

Conventional processing techniques for seismic refraction data lead to difficulties in resolving thin layers. Ray tracing inversion is mentioned as a processing step. This would help in resolving these thin layers.

A site with complex geology, such as the Agrium Nu-West facility, requires more shot points to adequately characterize the geology. In order to improve the seismic imaging, include additional shot points along the geophone spread to provide additional data for tomographic or ray-tracing inversion. Also, include reflection processing of the seismic data in addition to the refraction processing.

How many geophone spreads are planned per transect? How much overlap will be used when moving the geophone spreads forward? How many shots will be stacked at each shot point? Will data be recorded for each shot and stacked in processing or will data be stacked in the field? What sampling frequency will be used? How many samples per trace are planned? Will analog filters be used during acquisition? What is the frequency content of the source? Are source frequency characteristics appropriate for imaging faults, fractures, and interflow zones based on the expected widths and lateral extents of these features? Will seismic geophone locations and shot locations be surveyed for horizontal and vertical control?

Provide more details and a response to the questions posed above as part of the procedures and rationale for the Surface Geophysics Seismic Refraction proposal.

29. Page 27, Section 7.1.2.1 – Collection of Soil Samples

This section states, "Samples from deeper intervals may be held, pending the results of shallower samples."

EPA comment: Add specific criteria that will be used to determine if the deeper interval samples will be analyzed.

30. Page 28, Section 7.1.3 – Soil Sampling Locations

EPA comment: Nu-West has listed the QC Laboratory Leach Field as an Area of Potential Interest but has not proposed any soil borings in this area. Add a section and revise Figure 17 to propose several soil borings in/around the Leach Field.

31. Page 29, Section 7.1.3.2 - North Sulfuric Acid Plant
Section 5.1.2 of the Work Plan identifies that there have been releases of sulfuric acid and one reported release of an unknown quantity of gasoline from a truck-mounted tank in this area.

EPA comment: Given the release history at this location, the proposed limited soil borings at this location is inadequate. Revise this section and Figure 17 to include two additional borings at this area. One boring should be placed at the southwest corner of the liner and the other boring should be placed east of the production plant directly outside the liner.

32. Page 29, Section 7.1.3.3 - East Sulfuric Acid Plant
Section 5.1.2 of the Work Plan identifies that several releases have occurred in this area, including sulfuric acid, pond water, process water, and sodium hydroxide.

EPA comment: Given the release history at this location, the proposed limited soil borings at this location is inadequate. Revise this section and Figure 17 to include two additional borings at this area. One boring should be placed at the southwest corner of the East Sulfuric Acid Plant and the other boring should be placed centrally west of the East Sulfuric Acid Plant.

The East Sulfuric Acid Plant is labeled on Figure 17 as the object closest to the proposed boring location SB-8, and is located mid-point between SB-7 and SB-9. The two additional borings in the preceding paragraph are based upon this cartographical location representing the East Sulfuric Acid Plant.

33. Page 30, Section 7.1.3.6 – Phosphoric and Super-Phosphoric Acid (SPA) Plant
This section includes the following statement: "Soil borings SB-18, SB-19, and SB-20 will be advanced on the northeast end of the Phosphoric Acid Building, borings SB-21 and SB-22 near the car wash sump, and borings SB-23 through SB-26 will be advanced to the east of the Phosphoric Acid Building adjacent to the SPA Ditch."

EPA comment: There are at least two rail car wash sumps. In order for the choice of sampling locations to adequately meet the requirement in paragraph 62 of the AOC ("Areas of sampling shall include areas of historical spills and historical contamination, railcar cleaning stations..."), soil sampling is required at all railcar cleaning stations. Revise the Work Plan to include sampling at both the north and south railcar stations.

34. Page 31, Section 7.1.3.15 – Gypstacks and Tailings Ponds
This section includes the following statement: "Although several prior releases have been reported from the gypstacks, these have been addressed in previous investigations and remediation activities, or are being addressed."

EPA comment: The AOC requires Nu West to determine the nature and extent of any environmental contamination from hazardous waste at or from the Facility, including areas of historical spills. The Work Plan must address historical releases and must include the procedures Nu West will use to assess existing information. As indicated in general comments above, Nu West may address off-site areas in the Supplemental Work Plan in order to take into consideration the results of the first phase of sampling. However, the Supplemental Work Plan must include an assessment of existing information and rationale for how the off-site sampling proposal satisfies AOC requirements.

The data and information from the previous investigations and remediation activities will need to be provided to EPA unless it has already been provided. If the data has already been provided to EPA, Nu West will need to identify who that data was sent to and when it was sent. Strike the following statement from section 7.1.3.15: "Although several prior releases have been reported from the gypstacks, these have been addressed in previous investigations and remediation activities, or are being addressed."

35. Page 32, Section 7.1.4 – Analytical Program
This section includes the following statement: "Surface soil samples (0-1 feet bgs) and subsurface soil samples (1-2 feet bgs and 4-5 feet bgs) will be submitted for laboratory analysis of the 15 metals specified above and on Table 2 (hereinafter collectively referred to as "metals"), fluoride, pH, total phosphorus, TKN, nitrate, ammonia, gross alpha, and gross beta (due to the limited mobility of radiological parameters, only the 1-2 feet bgs interval will be analyzed for gross alpha and gross beta). Twenty-five percent of the samples submitted for gross alpha and gross beta will be analyzed for radium 226 and radium 228 analyses, covering a broad range of gross gamma field measurements and gross alpha laboratory analyses."

However, Section 5.1.2 identifies that a "...reported release of an unknown quantity of gasoline from a truck-mounted tank" occurred at the North Sulfuric Acid Plant area.

EPA comment: Revise the Analytical Program to include analysis of the soil samples taken at the North Sulfuric Acid Plant area for the following constituents: gasoline range organics, benzene, ethylbenzene, toluene, and xylene. Revise Table 2 to include the screening levels for these additional constituents, which shall be applicable only for samples taken at this location. See EPA comment #36 below on screening levels.

36. Page 32, Section 7.1.4 – Analytical Program
This section includes the following statement: "Analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times), method detection limits, and

laboratory reporting requirements are presented in Table 2 for solids, including soil and sediment. Table 2 also provides the IDEQ IDTL values for soil."

EPA comment: Revise the last sentence in Section 7.1.4 to read as follows: "Table 2 also provides the EPA Preliminary Remediation Goals (PRG) Screening levels and the IDEQ IDTL values for soil."

Revise the columns in Table 2 that identify the EPA Preliminary Remediation Goals, so that the Residential Soil Screening levels are identified. These values are shown in the Regional Screening Level (RSL) Master Table December 2009, and can be found at: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_DECEMBER2009.pdf

For the column that identifies the "Protection of Groundwater Risk-Based SSL", use the more restrictive value of either the "Risk-based SSL" or the "MCL-based SSL" as shown on the EPA Master Table for the screening level for each contaminant.

The purpose for specifying that residential soil screening levels be used is that the neighboring, adjacent property is residential, and to ensure that contamination of concern is not inappropriately screened out.

37. Page 32, Section 7.1.5 – Data Analysis
This section includes the following statement: The analytical results will be compared to the IDEQ risk-based rules and IDTLs, for commercial/industrial direct exposure and for the protection of groundwater and surface water.

EPA comment: Revise the above statement to read as follows: The analytical results will be compared to the more stringent of the EPA PRG screening levels for residential soil or the IDEQ risk-based rules and IDTLs for commercial/industrial direct exposure and for the protection of groundwater and surface water.

38. Page 32, Section 7.1.5 – Data Analysis
This section includes the following statement at the end of section 7.1.5: "If the analytical results for shallower samples indicate that concentrations of one or more analytes exceed the IDTL value in the deepest sample analyzed, then all deeper samples from that boring will be analyzed for the parameters that exceed the IDTLs in the shallower sample."

EPA comment: Revise the above statement to read as follows: "If the analytical results for shallower samples indicate that concentrations of one or more analytes exceed the more stringent of either the EPA PRG screening levels for residential soil or the IDTL value in the deepest sample analyzed, then all deeper samples from that boring will be analyzed for the parameters that exceeded those values in the shallower sample."

39. Page 32, Section 7.1.5 – Data Analysis

This section states, "Background sampling site locations will be an important part of data analysis."

EPA comment: Clearly demarcate locations of "background" sampling sites on each of the relevant sampling maps.

40. Page 35, Section 7.2.5 – Data Analysis

This section includes the following statement: "Sediment sample data will be compared to the IDEQ IDTLs and EPA screening criteria for sediments to assess if the metals concentrations are within the range of natural conditions and if a spatial pattern exists."

EPA comment: For each specific contaminant detected, use the more restrictive standard of either the EPA PRG Screening levels for residential soil or the State of Idaho IDTLs. Revise the above statement in section 7.2.5 to read as follows: "Sediment sample data will be compared to the more stringent of the EPA PRG screening levels for residential soil or the IDEQ IDTLs for sediments to assess if the metals concentrations are within the range of natural conditions and if a spatial pattern exists."

41. Pages 35-36, Section 7.3 - Surface Water Investigation

EPA comment: To adequately characterize surface water run-off through Woodall Springs Ditch, Nu-West will need to perform multiple sampling events. Sampling needs to be performed during a run-off event such as a snow-melt or significant rain event and also under normal conditions. Revise this section to provide for multiple sampling events as indicated above.

42. Page 35, Section 7.3.2 – Sampling Protocols

This section states, "Surface water samples will be collected before sediment samples are taken from Woodall Spring Ditch."

EPA comment: Because Woodall Spring Ditch is usually dry, add provisions to ensure that samples are collected when water is flowing.

43. Page 36, Section 7.3.2.1 – Collection of Surface Water Samples

This section includes the following statement: "This section describes the protocols for sediment sample collection. Specific sampling locations are described in section 7.3.3."

EPA comment: EPA presumes that you mean to state the protocols are for surface water sample collection. Revise accordingly.

44. Page 37, Section 7.3.4 – Analytical Program

The third bullet, "total phosphorus by EPA Method 365.3," is next to the listing for nitrate and is then listed again under the sixth bullet.

EPA comment: Reference the correct test methods.

45. Page 37, Section 7.3.5 – Data Analysis
This section includes the following statement: "The surface water data will be compared to the IDEQ Surface Water Quality Standards (Table 5), for qualitative evaluation of surface water conditions."

EPA comment: Revise Table 5 to include a column of EPA values. For each specific contaminant detected, use the more restrictive standard of either the State of Idaho Surface Water Quality Standard or the EPA National Recommended Surface Water Quality Criteria.

Reference: http://www.epa.gov/waterscience/criteria/wqctable/nrwqc-2009.pdf

Water criteria values for metals specified in the above table are based on a hardness value of 100 mg/l CaCO3, and will need to be adjusted for the hardness of the specific surface water body being sampled. See footnote E in the table, "National Recommended Water Quality Criteria". Revise the Work Plan to provide for adjustments necessary for water hardness.

Revise the statement in Section 7.3.5 to read as follows: "The surface water data will be compared to both the EPA National Recommended Surface Water Quality Criteria and to the IDEQ Surface Water Quality Standards (Table 5), for qualitative evaluation of surface water conditions. For each contaminant detected, the screening level will be the more restrictive of either the State of Idaho surface water standard or the EPA National Recommended Surface Water Quality Criteria."

46. Page 39, Section 7.4.3 – Summary of Monitoring Results
This section includes the following statement: "This summary focuses on the chemical constituents detected at concentrations above the groundwater standards established in the State of Idaho Groundwater Quality Rule."

EPA comment: For each specific contaminant detected, use the more restrictive standard of either the State of Idaho Groundwater Quality Rule or the EPA Maximum Contaminant Level (MCL) at 40 C.F.R. Part 141, Subpart O, Appendix A.

47. Page 39, Section 7.4.3 – Summary of Monitoring Results
This section provides a summary of analytical data from on-site monitoring wells and seven off-site monitoring wells. These results do not account for exceedances of metals in the monitoring wells in the 1994 Expanded Site Inspection Report and the 2005 Ground Water Assessment Report.

EPA comment: Revise this section to account for these exceedences.

48. Page 39, Section 7.4.3.1 – Gypstack Monitoring Wells
The third paragraph on this page states that, "Production well NW-7 is located upgradient of the Main Processing Area at the Facility and is considered a background well. No constituents of potential concern have been detected in this well."

EPA comment: See EPA comment #6 above. Revise this section accordingly.

49. Page 41, Section 7.4.4 – Groundwater Monitoring Existing Well Network
This section includes the following statement: "Purge water generated during groundwater sampling will be contained in appropriate drums meeting UN specifications, labeled as non-hazardous waste pending analysis, and placed in the Facility's waste storage area."

EPA comment: Purge water that could potentially be hazardous waste, depending upon the chemical constituents present, should not be labeled as non-hazardous until a determination has been made that it is in fact, non-hazardous. If it is determined to be a hazardous waste, then a failure to manage it as such could result in violations of hazardous waste requirements.

50. Page 43, Section 8.3 – Sampling Program
The first paragraph of this section states the following: "Table 5 summarizes the scope of the groundwater sampling event and the method requirements (e.g., bottle requirements, preservatives, and holding times), method detection limits, laboratory reporting limits, and the IDEQ Ground Water Quality Rule (IDAPA 58.01.11) Primary and Secondary Water Quality Standards."

EPA comment: Total phosphorus is not included in the list of analytes for well analysis in Table 5, which is referenced in this section. Since the analyte list for potable wells is identical to that for surface water with the exception of total phosphorus, perform total phosphorus on samples from potable wells. Revise Table 5 to include total phosphorus.

Revise the first paragraph of Section 8.3 to read as follows: "Table 5 summarizes the scope of the groundwater sampling event and the method requirements (e.g., bottle requirements, preservatives, and holding times), method detection limits, laboratory reporting limits, the IDEQ Ground Water Quality Rule (IDAPA 58.01.11) Primary and Secondary Water Quality Standards, and the EPA MCLs."

Revise the last bullet of Section 8.3 to read as follows: "If analytical results indicate any exceedances of either the Idaho drinking water quality standards or the EPA MCLs for analytes that may have originated from the Facility, the well survey will be extended by ½ mile radial increments in the appropriate direction. If additional potable water wells are identified within the larger radius, then sampling will be conducted for relevant constituents in accordance with this plan."

Revise Table 5 to include EPA MCLs for each analyte. Reference 40 C.F.R. Part 141, Subpart O, Appendix A.

51. Page 45, Section 9.1 – Sampling Program
This section includes the following statement: "The scope of the survey will include: defining project area boundaries and selecting an appropriate mapping scale (e.g. 1:200). The proposed boundaries and scale will be approved by EPA;"

EPA comment: The Agency expects the defined project area boundaries and mapping scale to be included within the Sampling and Analysis Work Plan rather than having a separate submittal and approval step. Revise the Work Plan to include the defined project area boundaries and mapping scale.

52. Page 45, Section 9.1 – Sampling Program
There is no provision for recording/measuring stream flow for surface water features.

EPA comment: This data is necessary to determine contaminant load. Revise the Work Plan to measure and record stream flow for surface water features. Include procedures and plans for measuring and recording stream flow for surface water features.

53. Page 45, Section 9.2 – Reporting
This section is focused on wetland and surface water survey, but mentions that the results of the investigation will be mapped.

EPA comment: Revise the Work Plan to provide for the inclusion of concentrations of constituents from samples on GIS maps so that contaminant behavior can be easily tracked.

54. Page 47, Section 11.2 – Database Management
The data will be included in a database, which will be helpful for data management.

EPA comment: Revise the Work Plan to provide for including field and laboratory data in the GIS map for ease of spatial tracking of contaminants of concern across the site.

55. Page 50, Section 12 – Site Assessment Report
The last paragraph on this page includes the following statement: During implementation of the assessment activities, CPO may periodically submit data and information to the agencies for the purpose of obtaining consensus on open-ended issues and apprising the agencies of unanticipated conditions that may require variations in the planned assessment activities. CPO will also submit quarterly progress reports documenting the status of activities required by the Consent Order."

EPA comment: Certainly Nu-West Industries may engage with EPA as issues arise, however Nu-West must proceed with the Work Plan unless the requirements are modified in accordance with the AOC. Any modifications to the approved work plan must be obtained in accordance with paragraph 129 of the AOC.

56. Page 51, Section 13, Project Schedule

EPA comment: The Work Plan, including Section 13 and Figure 22, must be revised to provide a site specific schedule for expeditious completion of all activities. The schedule may include some flexibility, but must include an enforceable schedule for submission of the Supplemental Work Plan and Sampling and Analysis Report as well as a sufficient number of enforceable interim milestones to ensure expeditions completion of all activities. A tentative, preliminary, approximate or estimated schedule does not provide a site specific schedule for expeditious completion of all activities and will not be approved.

In addition, the Work Plan cannot include a list of assumptions that qualifies Nu West's commitment to the schedule. Events that arise from causes that are not reasonably foreseeable and are beyond the control of Nu West are already addressed by the AOC's Force Majeure provisions. In addition, schedules can be adjusted under the AOC when appropriate upon the approval of the Project Coordinators.

57. Figure 3
The legend does not match the figure.

EPA comment: Revise and also add the locations of NW-9, NW-7, MWA, MWB, and NW-1.

58. Figure 14

EPA comment: Add "off-site wildlife" to the preliminary site conceptual model as a potential receptor to Figure 14.

59. Table 5
The test method for thallium is incorrectly listed as "SW-846 200.8" and must be "EPA 200.8".

The preservative and holding time listed for orthophosphate are incorrect. According to Table II, 40 CFR Part 136, the holding time is 48 hours and samples should be filtered through a phosphorus-free filter during sample collection and chilled to 4 °C. Sulfuric acid is not required until analysis.

EPA comment: Revise this table to indicate the proper preservation method and holding time for orthophosphate analysis.

60. Appendix A
Both the "Quality Assurance Project Plan" and "Accutest Laboratory Quality Assurance Manual" are each referred to as "Appendix A".

EPA comment: Correct the title page preceding each section to reference the correct Appendices.

61. Appendix A – Quality Assurance Project Plan

EPA comment: Peter Magolske has replaced Sylvia Burges as the EPA Project Coordinator. Replace all references of "Sylvia Burges, EPA Work Assignment Manager" in the Work Plan to "Peter Magolske, U.S. EPA Project Coordinator".

EPA will review and approve the QAPP in accordance with section IX of the AOC. Remove the signature page of the Quality Assurance Project Plan.

62. Appendix A - Quality Assurance Project Plan (QAPP)
Some applicable American Society for Testing and Materials (ASTM) Standards are missing in the QAPP.

EPA comment: Add references to ASTM Standards: ASTM D5777 - 00(2006) Standard Guide for Using the Seismic Refraction Method for Subsurface Investigation; ASTM D5753 - 05 Standard Guide for Planning and Conducting Borehole Geophysical Logging; and ASTM D6429 - 99(2006) Standard Guide for Selecting Surface Geophysical Methods, to improve the current plan for the Site Geophysical Survey.

63. Appendix A - QAPP
Sources of interference that might affect geophysical data quality at this site are not discussed in the QAPP.

EPA comment: Determine sources of interference that might affect geophysical data quality at the site and determine potential impacts on the data. For example, for the electrical data, are there overhead power lines, buried utilities, etc.? For the seismic data, is heavy equipment operating in the area? Describe methods for minimizing/mitigating interferences. Identify all potential sources of interferences and describe the methods that will be employed to minimize and address them.

64. Appendix A, QAPP, Page 3, Section 1.2.2 – Ground and Geophysical Surveys

EPA comment: Delete the text within Section 1.2.2 in its entirety and replace with the following: "Idaho Department of Environmental Quality Designated Contact Brian Monson is the IDEQ Designated Contact. Copies of data, reports, revisions to the work plan, and other documentation generated shall be provided to the IDEQ Designated Contact."

65. Appendix A, QAPP, Page 14, Section 2.1.1 – Ground and Geophysical Surveys
The reference to "Figure 18" is incorrect.

EPA comment: Revise this figure reference to "Figure 16".

66. Appendix A, QAPP, Page 15, Section 2.1.1 – Ground and Geophysical Surveys
This section includes the statement, "Bedrock depth information from the existing borings will be incorporated into the cross sections."

EPA comment: It is unclear what constraints will be used when inverting the seismic data. Add details describing what constraints will be used when inverting the seismic data (e.g., will the known bedrock depths be used as constraints when inverting the seismic data?).

67. Appendix C - Standard Operating Field Procedures
SOP 2 is not comprehensive because it does not include container, preservative, and holding times for nutrients, total dissolved solids (TDS), total suspended solids (TSS), anions, or radionuclides.

EPA comment: Include container, preservative, and holding times for nutrients, TDS, TSS, anions, and radionuclides.

68. Appendix C - Standard Operating Field Procedures
SOP 3 is not comprehensive because it does not include total phosphorus, orthophosphate, TDS, TSS, TKN, or fluoride in the order of sample collection.

EPA comment: Add total phosphorus, orthophosphate, TDS, TSS, total Kjeldahl nitrogen (TKN), or fluoride in the order of sample collection.